

## EAST Search History

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	4285	(network with (intrud\$3 intrusion))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:08
S2	373	(network with (intrud\$3 intrusion)) and (receiv\$3 with stream)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:12
S3	52	(network with (intrud\$3 intrusion)) and (receiv\$3 with stream) and (cluster\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:13
S4	1	(network with (intrud\$3 intrusion)) and (receiv\$3 with stream) and (cluster\$3) and (cluster\$3 with statistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:13
S5	1	(network with (intrud\$3 intrusion)) and (receiv\$3 with stream) and (cluster\$3) and (cluster\$3 with statistic)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:13
S6	29	((detect\$4 discover\$3 determin\$6) with network with (intrud\$3 intrusion)) and (receiv\$3 with stream) and (cluster\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:31
S7	31	(outlier adj cluster)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:37

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S8	2	(outlier adj cluster) and (stream with (event data object))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:39
S9	541	(cluster\$ with data with stream)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:39
S10	13	(cluster\$ with data with stream) and ((detect\$4 determin\$6 discover\$4) with (anomal\$4 or intrusion))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:45
S11	515	(data adj stream) and ((stream data) with (creat\$4 form\$3 formation) with cluster\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:51
S12	4	(data adj stream) and ((stream data) with (creat\$4 form\$3 formation) with cluster\$3) and (detect\$4 with (outlier abnormalit\$3 anomal\$4) with cluster)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:53
S13	4	(data adj stream) and ((stream data) with (creat\$4 form\$3 formation) with cluster\$3) and (detect\$4 with (outlier abnormalit\$3 anomal\$4 atypical) with cluster)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 15:54
S14	6	(data adj stream) and ((stream data) with (creat\$4 form\$3 formation) with cluster\$3) and ((detect\$4 discover\$4 determin\$6) with (outlier abnormalit\$3 anomal\$4 atypical) with cluster)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 16:00

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S15	2	("20020161763").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 17:44
S16	2	("20050210027").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2007/02/26 18:22
S17	6	(outlier adj cluster) same threshold	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 18:27
S18	22	((determin\$6 detect\$4) with abnormal with cluster) same threshold	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/02/26 18:27
S19	9237	(cluster with (analysis analyz\$3))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 16:47
S20	4346	(cluster with (analysis analyz\$3)) and ((creat\$4 form\$3 formation generat\$4) with cluster)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:02
S21	63	(cluster with (analysis analyz\$3)) and ((creat\$4 form\$3 formation generat\$4) with cluster with stream\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:16

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S22	5	((cluster with (analysis analyz\$3)) and ((creat\$4 form\$3 formation generat\$4) with cluster with stream\$3) and (compar\$3 with cluster with (threshold value)))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:04
S23	2	((cluster with (analysis analyz\$3)) and ((creat\$4 form\$3 formation generat\$4) with cluster with stream\$3) and (network with intrusion))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:09
S24	7	((cluster with (analysis analyz\$3)) and ((creat\$4 form\$3 formation generat\$4) with cluster with stream\$3) and (abnormality anomaly))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:14
S25	4509	((creat\$4 form\$3 formation generat\$4) with cluster) and ((statistic analysis analyz\$6) with cluster)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:17
S26	70	((creat\$4 form\$3 formation generat\$4) with cluster) and ((statistic analysis analyz\$6) with cluster) and (compar\$3 with cluster with threshold)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:21
S27	9	((creat\$4 form\$3 formation generat\$4) with cluster) and ((statistic analysis analyz\$6) with cluster) and (compar\$3 with cluster with threshold) and (IP with address)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:47
S28	10	(cluster\$3 with (object data information)) and ((statistic analysis analyz\$6) with cluster) and (compar\$3 with cluster with threshold) and (IP with address)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:48

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S29	86	((cluster\$3 with (object data information)) and ((statistic analysis analyz\$6) with cluster) and (compar\$3 with cluster with threshold))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:48
S30	12	((cluster\$3 with (object data information)) and ((statistic analysis analyz\$6) with cluster) and (compar\$3 with cluster with threshold) and (fraud security intruder intrusion))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:55
S31	441461	((cluster\$3 group\$3) with (object data information))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:57
S32	765	((cluster\$3 group\$3) near (IP adj address))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:57
S33	2583	((cluster\$3 group\$3) near5 (IP adj address))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:57
S34	956	((cluster group) near3 (ip address computer server device node)) same (network) same (instrusion hack\$4 entry)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:58
S35	309	((cluster group) near3 (ip address computer server device node)) with (network) with (instrusion hack\$4 entry)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 17:59

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S36	257	((cluster group) near3 (ip address computer server device)) with (network) with (instrusion hack\$4 entry)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/02 18:02
S37	3	((cluster group) near3 (ip address computer server device)) with (network) with (instrusion hack\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 12:17
S38	672	((network adj intrusion) with (detect\$4 system))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 12:18
S39	11	((network adj intrusion) with (detect\$4 system)) and ((analyz\$6 analysis) with cluster)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 13:36
S40	1	((cluster\$3 group\$3) with (data object)) and pair\$1wise and categorical and ((number with (point object)) size) and (sum with weight) and (time\$1stamp or (time adj stamp))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 13:48
S41	482502	((cluster\$3 group\$3) with (data object point))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:00
S42	27	((cluster\$3 group\$3) with (data object point)) and (stream\$3) and ((creat\$3 genaerat\$4 form\$3 formation) with new with (cluster group)) and (similarity with threshold)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:14

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S43	15	((cluster\$3 group\$3) with (data object point)) and (stream\$3) and ((creat\$3 genaerat\$4 form\$3 formation) with new with (cluster group)) and (similarity with threshold) and ((IP (Internet adj protocol) source destination) with address)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:25
S44	2	((cluster\$3 group\$3) with (data object point)) and (stream\$3) and ((creat\$3 genaerat\$4 form\$3 formation) with new with (cluster group)) and (similarity with threshold) and ((IP (Internet adj protocol) source destination) with address) and (intrusion abnormal\$6 anomol\$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:22
S45	6	(securimine).as. or (rachman with Ophir).in.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:23
S46	4	((securimine).as. or (rachman with Ophir).in.) and (group\$3 cluster\$3)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:24
S47	2	((securimine).as. or (rachman with Ophir).in.) and (group\$3 cluster\$3) and (intrusion)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:24
S48	107	((cluster\$3 group\$3) with (data object point event transaction)) and ((creat\$3 genaerat\$4 form\$3 formation) with new with (cluster group)) and (similarity with threshold)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:26
S49	140	((cluster\$3 group\$3) with (data object point event transaction)) and ((creat\$3 generat\$4 form\$3 formation) with new with (cluster group)) and (similarity with threshold)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:27

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S50	57	((cluster\$3 group\$3) with (data object point event transaction)) and ((creat\$3 generat\$4 form\$3 formation) with new with (cluster group)) and (similarity with threshold) and (IDS (intrusion adj detection))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:28
S51	2	((cluster\$3 group\$3) with (data object point event transaction)) and ((creat\$3 generat\$4 form\$3 formation) with new with (cluster group)) and (similarity with threshold) and (IDS (intrusion adj detection)) and (source adj IP adj address)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 14:31
S52	0	(taylor and alves\$1foss).as.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 15:45
S53	9237	(cluster with (analyz\$3 analysis))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 15:46
S54	45	(cluster with (analyz\$3 analysis)) and (updat\$3 with (cluster group) with (center centroid))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 15:47
S55	11	(cluster with (analyz\$3 analysis)) and (updat\$3 with (cluster group) with (center centroid)) and ((pair\$1wise categorical) with (attribute variable))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 15:52
S56	2	(cluster with (analyz\$3 analysis)) and (updat\$3 with (cluster group) with (center centroid)) and ((pair\$1wise categorical) with (attribute variable)) and ((creat\$4 generat\$4 form\$3 formation) with new with (cluster group))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 15:52



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S57	0	(cluster with (analyz\$3 analysis)) and (updat\$3 with (cluster group) with (center centroid)) and ((pair\$1wise and categorical) with (attribute variable))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2007/03/03 15:52
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# 1 [Clustering algorithms: COOLCAT: an entropy-based algorithm for categorical](#)


[clustering](#)

Daniel Barbará, Yi Li, Julia Couto

 November 2002 **Proceedings of the eleventh international conference on Information and knowledge management CIKM '02**

Publisher: ACM Press

Full text available: pdf(826.02 KB)

 Additional Information: [full citation](#), [abstract](#), [references](#), [citations](#), [index terms](#)

In this paper we explore the connection between clustering categorical data and entropy: clusters of similar poi lower entropy than those of dissimilar ones. We use this connection to design an incremental heuristic algorithm, COOLCAT, which is capable of efficiently clustering large data sets of records with categorical attributes, and data streams. In contrast with other categorical clustering algorithms published in the past, COOLCAT's clustering results are very stable for different sample s ...

**Keywords:** clustering, data streams, entropy

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